AN EXAMINATION OF IMPLICIT BIAS IN STUDENT LEADERS IN THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES

An Undergraduate Research Scholars Thesis

by

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ABSTRACT

An Examination of Implicit Bias in Student Leaders in the College of Agriculture and Life Sciences

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Literature Review

This research project is designed to better understand the role implicit bias plays in the College of Agriculture and Life Sciences (AGLS) at Texas A&M University (TAMU). "Implicit biases are discriminatory biases based on implicit attitudes or implicit stereotypes" (Greenwald & Krieger, 2006, p. 951). These biases can affect societal outlooks (Conaway & Bethune, 2015). There are a number of ways that these biases can develop, from previous life experiences to family environment (Greenwald & Banaji, 1995). Usually, physical characteristics bring forth these biases. However, career occupation can be the cause as well (Gadassi & Gati, 2009). Specifically, in AGLS, the presence of stereotypes of the students and within the students can affect their education with regards to implicit bias. Due to the majority of the students who may come from a similar family and community environment, their previous experiences which make up their implicit biases can in turn be similar (Harper, 2017). Conducting this study with the students in AGLS will help describe the college climate for both this college and the university.

Thesis Statement

Texas A&M University and AGLS is interested in baseline data in implicit bias from their students. We are targeting the student leaders of the College of Agriculture and Life Sciences because it could present a measurement that could be used to build programs for these students. At the administration levels of both the university and college there is more interest on student climate than before. This paper examines the implicit bias of the student leaders in the College of Agriculture and Life Sciences at Texas A&M University.

Theoretical Framework

Social identity theory was used due to its assertion that group prototypical leaders (where a prototype is a set of attributes such as attitudes and behaviors) are more supported and seen as more effective by members than are less prototypical leaders (Hogg, Kippenberg, & Rast, 2012). This framework informs this research because, in the College of Agriculture and Life Sciences, the presence of stereotypes of the students and within the students can affect their education with regards to implicit bias. The theory discusses that affiliation in certain groups or industries can cause members to identify with the group.

Methods

This research was carried out as a slice in time survey done voluntarily by student leaders in AGLS at TAMU. The surveys were focused in the following areas: race and gender in careers. The survey instrument was provided by Project Implicit. Students from AGLS Student and President Councils (n=100) were distributed the surveys and demographic information were collected with the completion of the surveys. Descriptive statistics was used to compare against national benchmarks and demographic information.

Project Description

This research project examined the implicit bias in student leaders in AGLS at TAMU. During the last five years, the importance of understanding the climate of the university has become a priority. The data collected from this research project will better allow the administration from AGLS to benchmark their students as compared to a national data base. Student leaders from AGLS were given a voluntary slice in time survey that measured their implicit bias in three different categories.

INTRODUCTION

This research project was designed to better understand the role implicit bias plays in students within the College of Agriculture and Life Sciences. “Implicit biases are discriminatory biases based on implicit attitudes or implicit stereotypes” (Greenwald & Krieger, 2006, p. 951). The study of implicit social cognition picked up pace in 1998 with the creation of Project Implicit, a site that bridged public outreach and research on this subject matter (Greenwald, McGhee, & Schwartz, Measuring individual differences in implicit cognition: The Implicit Association Test., 1998). In 2014, researchers pursued even deeper into the study of implicit social cognition. Not only to research scholars, but to the public as well; the study of implicit bias has become a hot topic. There has been a significant interest in studying these biases and the role they play in society. These biases can affect social outlooks, in the way that a person may perceive another person with any background knowledge (Conaway & Bethune, 2015). Usually, physical characteristics bring forth these biases. However, career occupation can be the cause as well (Gadassi & Gati, 2009). There are a number of ways that these biases can develop, from previous life experiences to family environment (Greenwald & Banaji, 1995).

Specifically, within the College of Agriculture and Life Sciences at a large southern land-grant university, the presence of stereotypes, or the manifestation of implicit biases, of the students and among the students can affect their education. Due to the majority of the students who may come from a similar family or community environment, their previous experiences which make up their implicit biases can in turn be similar (Harper, 2017). Conducting this study with the students in AGLS helped describe the college climate for both this college and the university.

The group that this study chose to sample was the student leaders in AGLS. These student leaders are comprised of both the College of Agriculture and Life Sciences Student Council (C.O.A.L.S. Council) and Presidents Council. C.O.A.L.S. Council is a professional organization that serves as the liaison between students, faculty and the Dean in the College of Agriculture and Life Sciences. The council represents the nearly 8,000 students within the college through service activities, networking opportunities, professional development, and opportunities for funding through scholarships and grants. There are approximately 50 members that serve on C.O.A.L.S. Council and represent the 14 departments in the college. The Texas A&M University C.O.A.L.S. Council unifies and serves students by promoting communication, encouraging personal development, and providing opportunities for social interaction in order to create leadership in the College of Agriculture and the Life Sciences.

C.O.A.L.S. Council was founded in 1992 and is comprised of Finance, Programs, Leadership, Service, and Public Relations Committees. Each committee works on individual projects to promote development and all committees work together on large projects throughout the year. Meetings are biweekly in addition to outside required events. Members of the council are classified in four ways: C.O.A.L.S. Council Executives, General Members, or Department Representatives. Council Executives are elected members from the previous year who serve as the committee leaders. General members are chosen through an application and interview process that occurs during the beginning of the fall semester. Department Representatives are chosen by each department through either election or appointment.

The College of Agriculture and Life Sciences Presidents Council is a group comprised of a representative (usually a lead executive) from every organization in AGLS. Presidents Council was founded in 2016 and meets once a semester and as needed Presidents Council was founded

to aid the C.O.A.L.S. Council and AGLS Office of the Dean to recognize problems within the college and create solutions to address those problems. Members are chosen in their organizations by either election or appointment to be a representative on Presidents Council.

The purpose of this study is to examine the prevalence of and perception toward implicit biases of student leaders in AGLS. Specifically, the objectives include:

Objective 1: Identify implicit bias of student leaders in the College of Agriculture and Life Sciences toward race.

Objective 2: Identify implicit bias of student leaders in the College of Agriculture and Life Sciences toward gender-careers.

Objective 3: Describe the reasoned behavior and intentions toward implicit bias including their roles and responsibilities by student leaders.

CHAPTER I

LITERATURE REVIEW

There has been a large amount of research done in social psychology in the area of automatic versus implicit processes. In a simpler way "the term implicit is used to refer to processes that occur outside conscious awareness" (Devos, Huynh, & Banaji). Several scholars assume that these processes affect a person's operating without their conscious awareness. (Banaji 2001; Bargh & Ferguson 2000; Blair 2001; Farnham, Greenwald, & Banaji 1999). Scholars have also studied how attitude can be a predictor for behavior (Pantos, 2010). Strack and Deutsch (2004) described a two-system model that demonstrated the implicit and explicit processes. These systems are impulsive and reflective.

With this model, it assumes that social behavior is directly connected to these systems through different operating principles. The impulsive system (implicit) is based on "associative links and motivational orientations," whereas the reflective system "generates behavioral decisions that are based on knowledge about facts and values" (Strack & Deutsch, 2004, p. 220). Both systems are connected to behavior. Impulsive system is directly linked to behavior whereas the reflective system is indirectly related. "Implicit associations between concepts (such as 'old' or 'young,' and 'bad' or 'good')" (Verneau, La Barbera, & Del Giudice, 2017, p. 314); the reflective system is "mediated by reasoning, behavioral decision and intention."

Project Implicit was founded in 1998 as a non-profit organization where international collaboration in research can take place regarding implicit social cognition (Take a Test, 2017). Throughout the years, the researchers have been able to put together a large database of responses to their many Implicit Association Tests (IAT). The following figures show these

response frequencies over the given amount of time. Figure 1 shows that over 10 years there have been over 3 million responses to the race IAT. Figure 2 shows the genders-career IAT has had just over 1 million responses in a little over 10 years as well.

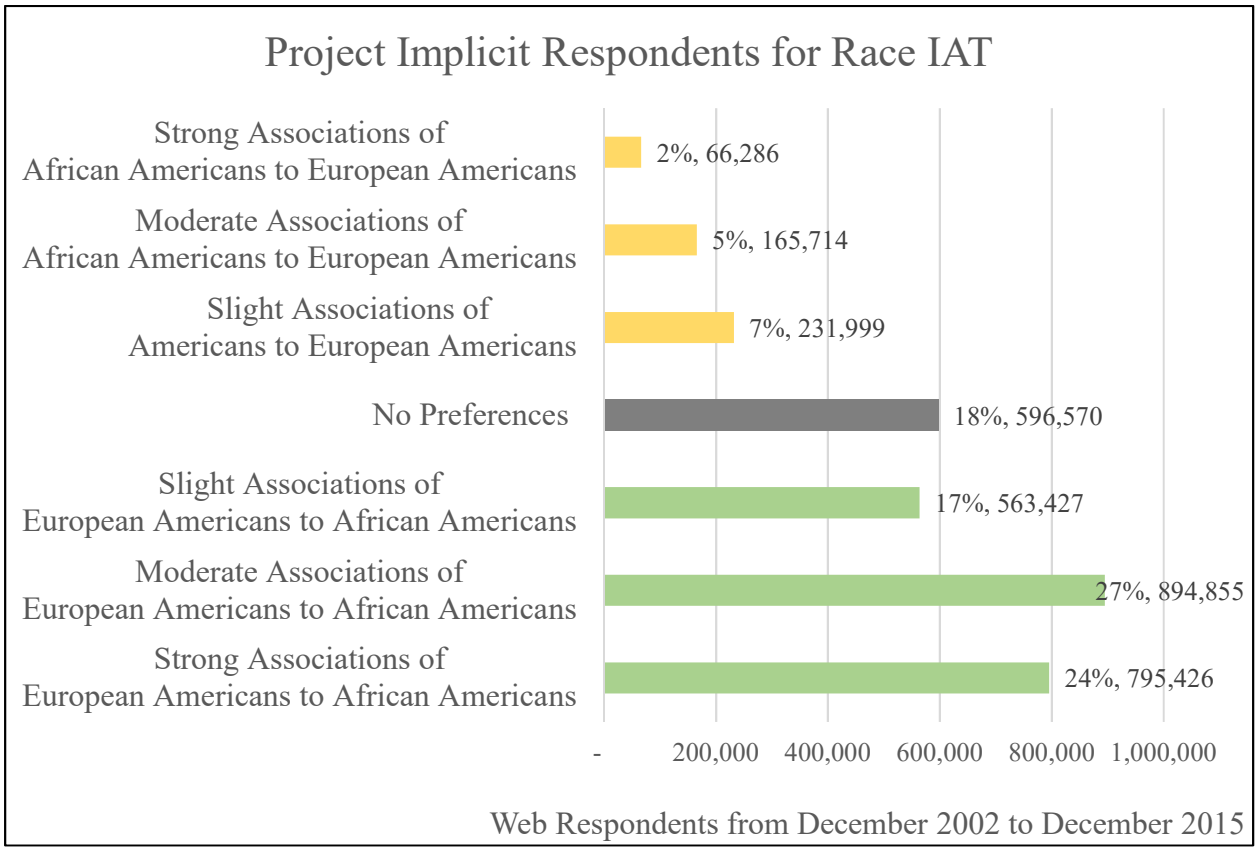

Figure 1: Project Implicit web respondents for the Race IAT from December 2002 to December 2015 (implicit.havard.edu).

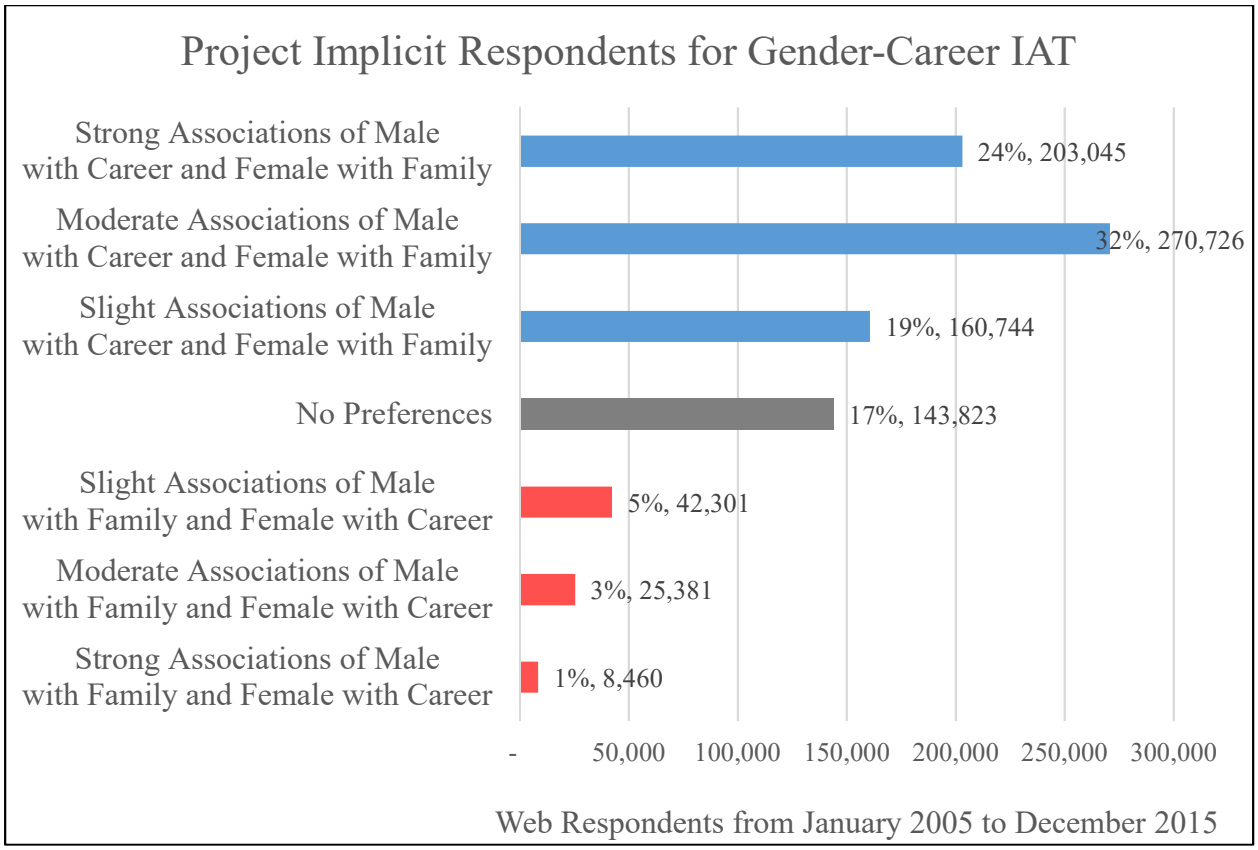

Figure 2: Project Implicit web respondents for the Gender-Career IAT from January 2005 to December 2015 (implicit.havard.edu).

Due to a lack of knowledge about the agricultural industry, there are stereotypes that form around agriculture education and careers (Henry, Talbert, & Morris, 2016). In many urban communities, there is usually little to no interaction between those that work in the agricultural industry and those that do. Students that are distanced from agriculture, either personal because they do not have any relationship with someone who is involved with agriculture or through geography because they live in large cities, can develop these stereotypes (Henry, Talbert, & Morris, 2016). This absence of awareness can cause problems with the student's education through the lack resources allotted for rural agriculture students (Bryant, 2012). These

stereotypes have put a negative look on the collegiate agriculture students from an outside perspective.

Stereotypes have also been associated with race and gender. Stereotypes in race are usually derived from a misunderstanding or complete lack of knowledge from a different culture or ethnicity (Bonilla & Goss, 1997). When looking at genders in regard to careers, females are usually more associated with family and males with careers (Take a Test, 2017). This can even have been seen in their own gender, where females see themselves in more of a liberal arts career path rather than in sciences or mathematics (Cundiff, Vescio, Loken, & Lo, 2013).

New generations have always defined themselves differently than those that came before them. In millennials, the stereotype of race and gender has been a long-time discussion. In a study where participants in the millennial generations were given rap lyrics to listen to, they described their independence as their race and gender (Moody-Ramirez & Scott). With the stereotypes from an agriculture background, race and gender, the perception of a student leader in AGLS cannot be easy to predict.

In our study, we examined the comparison of the Project Implicit national dataset and student leaders of the College of Agriculture and Life Sciences. This data shows the way the student leaders se race and gender, and how it may play a role in their responsibilities as leaders.

CHAPTER II

THEORETICAL FRAMEWORK

Social identity theory was used due to its assertion that group prototypical leaders (where a prototype is a set of attributes such as attitudes and behaviors) are more supported and seen as more effective by members than are less prototypical leaders (Hogg, Kippenberg, & Rast, 2012). Hogg et.al. reported that this is particularly true when "group membership is a central and salient aspect of members' identity and members identify strongly with the group" (p. 1). Therefore, social identity theory recognizes that when someone is categorized as a group member we "depersonalize them- a process causing us to view them as group members rather than autonomous individuals and to assign them cognitively and perceptually the prototypical attributes of the group" (Hogg, Kippenberg, & Rast, 2012).

This framework informs this research because, in the College of Agriculture and Life Sciences, the presence of stereotypes of the students and within the students can affect their education with regards to implicit bias. The theory discusses that affiliation in certain groups or industries can cause members to identify with the group. Due to the majority of the students who may come from a similar family and community environment, their previous experiences which make up their implicit biases can in turn be similar (Harper, 2017). This research will identify if student leaders in the College of Agriculture and Life Sciences have similar implicit biases because they identify as a group.

CHAPTER III

METHODS

This research was carried out as a slice in time survey done voluntarily by student leaders in the College of Agriculture and Life Sciences at Texas A&M University. The surveys were focused in the following areas: race and gender in careers. The survey instrument was provided by Project Implicit. Students from the C.O.A.L.S. Council and President Councils (N=100) were distributed the surveys and demographic information was collected with the completion of the surveys. Descriptive statistics were used to compare against national benchmarks and demographic information. The Institutional Review Board from Texas A&M University approved the methods for this study. The criteria for participation in this study were that the student must be a member of the C.O.A.L.S. Council or a member of the Presidents Council.

Population & Sample

The target population for this study was student leaders on the C.O.A.L.S. Council and on the Presidents Council. An online link to the IATs was sent to each member of these two organizations (N=100). Of the 100 student leaders who could have responded to the survey, a total of 20 students completed it (n=20) for a response rate of 20%.

Instrumentation

The survey instrument used was created by Harvard University through an online website (implicit.havard.edu). Project Implicit supplied the Race and Gender-Career IATs used in this study. The Race IAT examines the implicit biases related to African Americans and European Americans. The test associates positive words with one of the races and negative words with the other race. Halfway through the test, the associations are switched. The test measures the

reaction times of the associations to categorize the bias as a slight, moderate, strong, or no preference for either European Americans over African Americans or African Americans over European Americans. This is the same for the Gender-Career IAT. The Race IAT indicates the strength of associations between concepts (e.g., African Americans, European Americans) and evaluations (e.g., good, bad) or stereotypes (e.g., athletic, clumsy). The IAT asserts that responses to the questions are easier when items that are closely related share the same response key.

The online survey tool used to collect data was Qualtrics. In this survey, we collected the results from the two IATs and information regarding change of participants' perception of implicit bias. This survey compiled the associations of the implicit bias results. Questions were asked regarding the association (slight, moderate, strong, and no preference) and the preference (Race IAT- European Americans to African Americans, African Americans to European Americans, No preference; Gender IAT-Male with Career/Female with Family, Male with Family/Female with Career, No preference). Additional questions were collected using a scale (1-Strongly Disagree, 2- Slightly Disagree, 3- Slightly Agree, 4-Strongly Agree) to collect information regarding student leader's perceptions of implicit bias. These questions included:

1. I will use what I have learned about implicit bias in my role as a student leader within COALS/Presidents Council.
2. I believe as a student leader within COALS/Presidents Council I have a responsibility to influence the climate of the college.
3. My perception of implicit bias changed after taking these tests.
4. My understanding of my own implicit biases has changed after taking these tests.
5. My understanding of implicit biases has changed after taking these tests.

Demographic data including gender, race, ethnicity, college major, classification, and organization affiliation was also collected.

CHAPTER IV

RESULTS

Objective one of this study was to identify the implicit bias of student leaders in the College of Agriculture and Life Sciences toward race. The objective one results are presented in Figure 3 below.

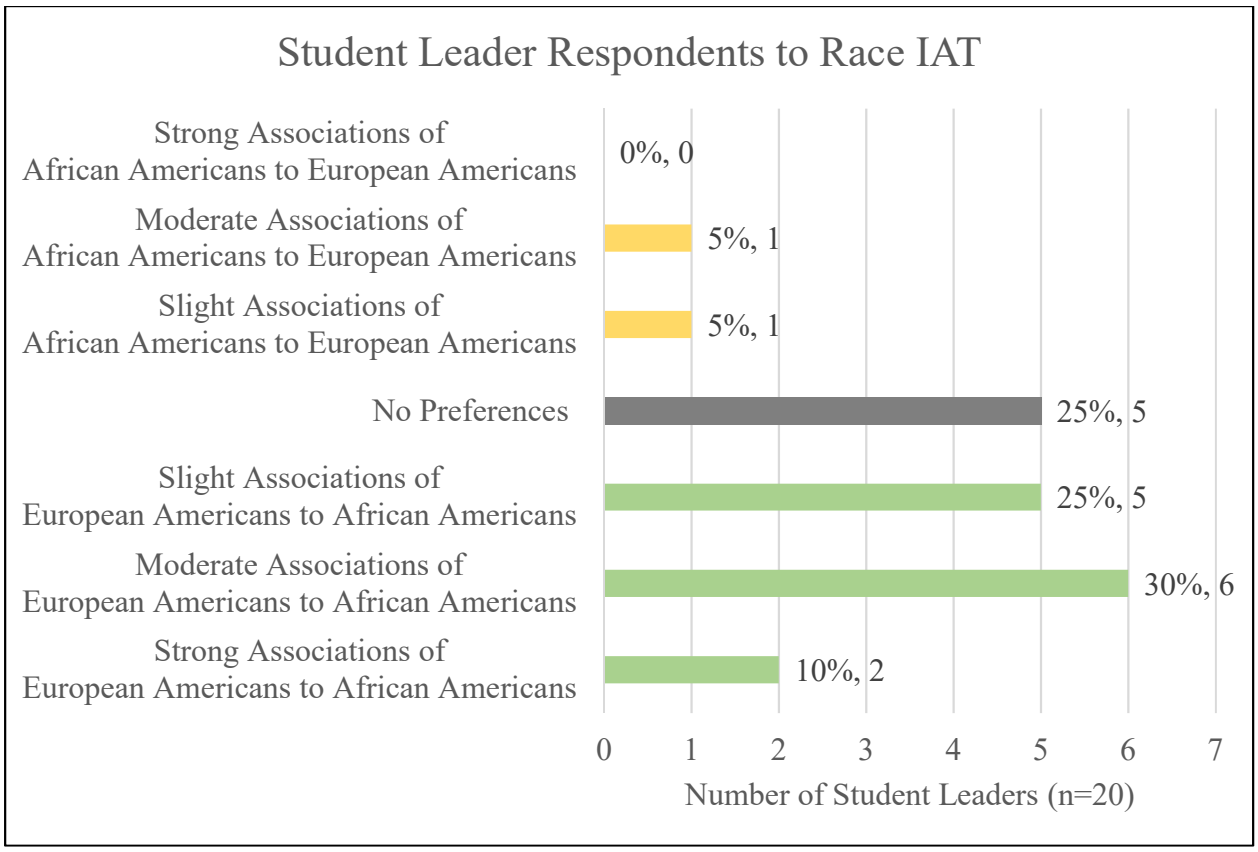

Figure 3: Student leader respondents to the Race IAT (n=20).

Figure 3 presents the results of the Race IAT of the student leaders of the College of Agriculture and Life Sciences. In the area of a strong association of African Americans to European American revealed a 0% (0) response. In the area of a moderate and slight association of African

Americans to European American revealed a 5% (1) response for each. In the area of a strong association of European Americans to African American revealed a 10% (2) response. The highest response was in the area of a moderate association for European American to African Americans at 30% (6). There was a 25% (5) response in the area of slight associations for European American to African Americans. Finally, under the no preferences area, the students had a 25% (5) response.

Objective two of this study was to identify the implicit bias of student leaders in the College of Agriculture and Life Sciences toward gender-careers. The objective two results are presented below in figure 4.

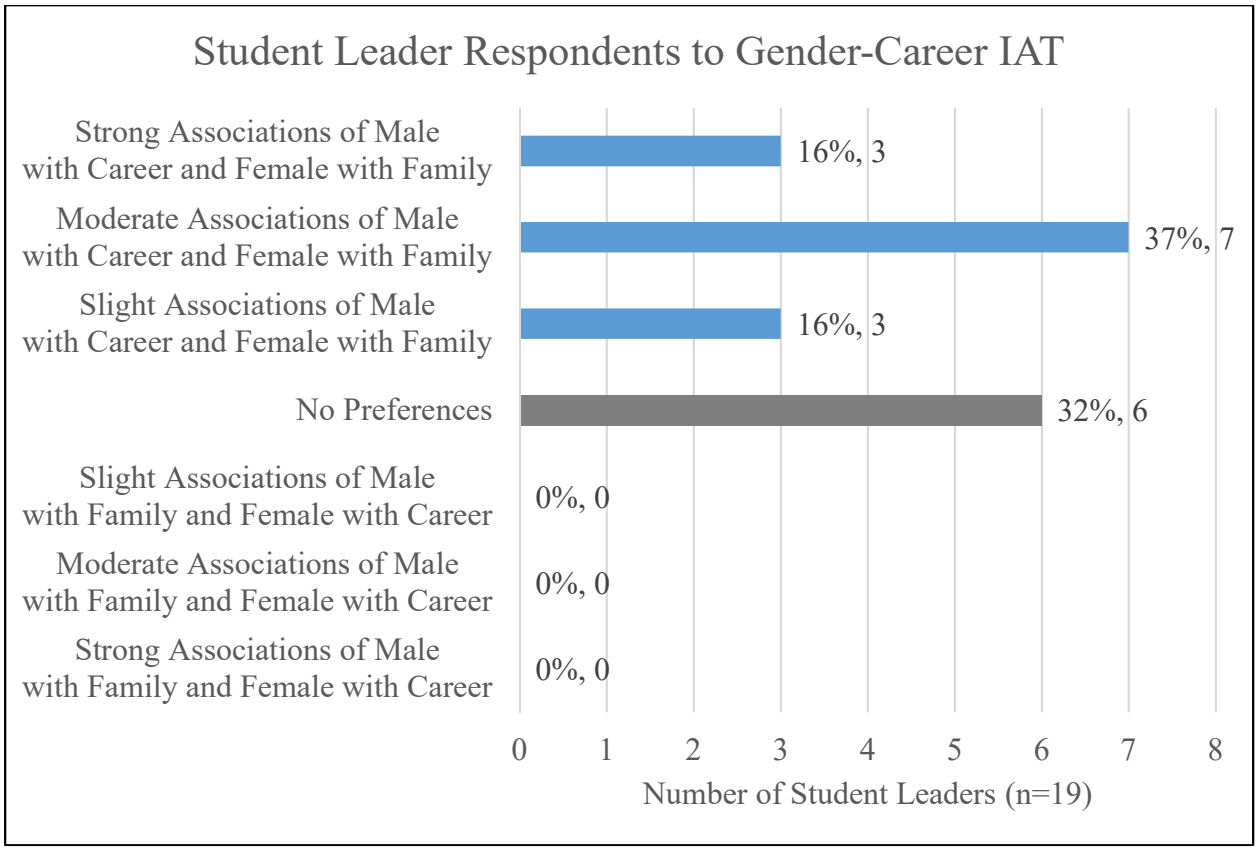

Figure 4: Student leader respondents to Gender-Career IAT (n=19).

The student leaders of AGLS demonstrated an association of males with career and females with family. 16% (3) of the student leaders had a strong association with males and careers and females with family. The highest frequency, 37% (7) had a moderate association with males and careers and females with family. In the slight association of males and careers and females with family, 16% (3) tested in this range. No student leader tested to have an association with females and careers and males with family. Finally, there was 32% (6) of student leaders whom tested in the No Preference range.

Objective three was tested through questions were collected at the end of the survey to describe the reasoned behavior and intentions toward implicit bias including their roles and responsibilities by student leaders. The following questions were asked:

1. I will use what I have learned about implicit bias in my role as a student leader within COALS/Presidents Council.
2. I believe as a student leader within COALS/Presidents Council I have a responsibility to influence the climate of the college.
3. My perception of implicit bias changed after taking these tests.
4. My understanding of my own implicit biases has changed after taking these tests.
5. My understanding of implicit biases has changed after taking these tests.

We used a scale (1-Strongly Disagree, 2- Slightly Disagree, 3- Slightly Agree, 4-Strongly Agree) to collect information regarding student leader's perceptions of implicit bias. Table 1 shows these results.

Looking at the responses to the questions, students responded in the agree categories, both slightly and strongly the majority of the time. However, the largest percentage of student leaders that responded negatively to the questions was 26% (5) to the question, "My perception

of implicit bias changed after taking these tests." Both question 4 and 5 received higher negative responses as well. The slightly agree option was selected the most through out the majority of the questions.

Table 1: Describe the behavior and intention of implicit bias.

Answers to Questions	Q1	Q2	Q3	Q4	Q5
Strongly Agree	17% (3)	63% (12)	5% (1)	21% (4)	21% (4)
Slightly Agree	72% (13)	32% (6)	53% (10)	42% (8)	42% (8)
Slightly Disagree	11% (2)	0% (0)	26% (5)	16% (3)	21% (4)
Strongly Disagree	0% (0)	5% (1)	16% (3)	21% (4)	16% (3)
Total Answers	n=18	n=19	n=19	n=19	n=19

CHAPTER V

DISCUSSION

Implicit bias exists in everyone. There is no surprise that the student leaders in AGLS demonstrate some of these biases. Shown in Figure 3, student leaders biases related to race were similar to the national average shown in Figure 1. However, student leaders in the college's "no preference" statistic was higher than the national average. Less student leaders also exhibited less strong associations of European Americans to African Americans than the national average. One African American student had a preference of African Americans to European Americans. Another minority had a no preference association related to this test. This study has backed up pervious research in the area and shows how pervious experiences in life space your implicit biases. Really looking at the individuals that had taken this test, the data is not surprising. The majority of the study is students participates are white. The student leaders in the AGLS do closely resemble the database data.

In the gender in careers survey, student leader's data Figure 4 aligned similarly with the national average shown in Figure 2. Student leaders did exhibit a higher percentage of "no preferences." Even with a high number of female participants in the gender-career survey the correlation between females and family was still high. This is showing that women are implicitly viewing themselves in these family roles rather then careers. This was an interesting data point because these students are considered leaders in the college, working on a degree for a career however there is still a strong association with females to family rather then careers.

Finally, student leaders and the reasoned behavior and intentions toward implicit bias including their roles and responsibilities was described in Table 1. Here one can see that the majority of students tend to agree with the questions. These questions generally asked if student learned from this study and if they would apply it. The largest positive response was asking if the student leaders believed they had a responsibility to influence the college and majority agreed. However, 42% of students said that their opinion of implicit bias did not change after this survey. This could be because they had studied it before, or because they did not like their results.

CONCLUSION

In describing the biases related to race and gender in careers, most of the results found where be expected in a conservative college in the agriculture and life sciences field.

Overall, the data found shows that student leaders in the College of Agriculture and Life Sciences implicit biases align similarly to the national average. The data collected can be used by educators to create curriculum and programs that are more intentional in moving students' biases to align in the "no preference" area.

Further research needs to be conducted to find specifics on the impact implicit bias has on student leaders. A recommendation for future practice is assessing the amount of formal leadership education and experiences a student leader has. The amount of education and experience a student leader has could affect their implicit bias responses.

If the study is replicated, some suggested adjustments could improve the study. Recommendations to improve the response rate include randomly assigning different IATs to the population. Currently, all participants were assigned the two IATs. If the IATs were divided among the participants, the response rate might increase.

Understanding these biases plays a role in the education of these students, not only in the tradition sense as a student, but also as a leader. Quantifying these biases can help educators guide these student leaders in their organizations.

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